Comparative Analysis of Monthly Reports on the Oil Market

Summary Findings from a Comparison of Data and Forecasts on the Oil Market by IEA and OPEC
1. NOTE BY THE SECRETARY GENERAL

The IEF conducts a comprehensive comparative analysis of the short-, medium-, and long-term energy outlooks of the IEA and OPEC to inform the IEA-IEF-OPEC Symposium on Energy Outlooks that the IEF hosts in Riyadh as part of the trilateral work programme on a yearly basis.

To inform IEF stakeholders on how perspectives on the oil market of both organisations evolve over time more regularly, this monthly summary provides:

- Key findings and a snapshot overview of data points gained from comparing basic historical data and short-term forecasts of the IEA Oil Market Report and the OPEC Monthly Oil Market Report.

- A comparative analysis of oil inventory data reported by JODI, the IEA, OPEC, and secondary sources in collaboration with the Rapidan Energy Group.

Moreover, international developments this month that will have an impact on oil market balances are as follows:

**The 10th (Extraordinary) OPEC and non-OPEC Ministerial Meeting**

- On 12 April 2020, OPEC+ producers struck an agreement to adjust oil production by 9.7 mb/d for May and June, by 7.7 mb/d from July through December, and by 5.8 mb/d from January 2021 through April 2022.

**G20 Extraordinary Energy Ministers Meeting**

- On 10 April, 2020 G20 Energy Ministers acknowledged the instability in the global energy market and agreed to “take all the necessary and immediate measures to ensure energy market stability” and “ensure the balance of interests between producers and consumers, the security of our energy systems, and the uninterrupted flow of energy.”

**Railroad Commission of Texas Hearing**

- On 14 April, The Railroad Commission of Texas listened to more than ten hours of testimony regarding production adjustments. A week after the hearing, the Commission decided to defer a decision on adjusting the state’s production until May 5th, 2020.

I trust this month’s analysis helps to sharpen focus on evolving short-term market perspectives.

Dr Sun Xiansheng
Secretary General
International Energy Forum
2. KEY POINTS

2.1 DEMAND

- OPEC and the IEA’s overall demand projections fell more sharply into negative territory in April.
  - The IEA’s world demand assessments have decreased by 9.21 mb/d to reach an overall demand decline of -9.30 mb/d. Demand in April is estimated to be 29 mb/d lower than a year ago, down to a level last seen in 1995.
  - OPEC also decreased its forecast by 6.91 mb/d for an overall decline of -6.85 mb/d. The IEA and OPEC estimates for absolute world demand have come back below the 100 mb/d threshold and are now 90.55 mb/d and 92.82 mb/d, respectively.

- The IEA reports a greater OECD and non-OECD demand decline than OPEC.
  - The IEA’s estimate for non-OECD demand decreases by 5.45 mb/d to reach a total decline of -3.62 mb/d for 2020. OPEC’s estimate decreases by 3.22 mb/d for a total decline of -2.85 mb/d.
  - The IEA’s OECD demand assessment decreased by 3.77 mb/d for a total demand decline of -5.69 mb/d, while OPEC growth decreases by 3.68 mb/d for an overall decline of -3.99 mb/d.
  - The IEA and OPEC differ by 0.77 kb/d and 1.70 kb/d on non-OECD and OECD demand, respectively.

2.2 SUPPLY

- The IEA and OPEC disagree on the extent of non-OPEC and OECD supply declines.
  - The IEA’s April 2020 assessment for non-OPEC supply is down by 4.39 mb/d to reach a total decline of -2.31 mb/d while OPEC’s assessment has decreased by 3.26 mb/d for a total decline of -1.50 mb/d. In absolute values, the IEA and OPEC estimate non-OPEC supply at 63.23 mb/d and 63.47 mb/d respectively for 2020.
  - The IEA reports OECD supply decline at -0.44 mb/d, down by 2.13 mb/d. OPEC records OECD growth at 0.04 mb/d, a decrease of 1.23 kb/d from March. In absolute values, the IEA and OPEC estimate OECD supply estimates at 28.13 mb/d and 29.98 mb/d, respectively.

- The IEA and OPEC non-OECD supply growth estimates converge further.
  - The IEA’s supply assessment decreased by 1.78 mb/d for a total decline of -1.50 mb/d while OPEC revised its assessment down by 2.04 mb/d to reach -1.60 mb/d.
  - In absolute values, IEA and OPEC non-OECD supply estimates are 30.32 mb/d and 31.16 mb/d respectively for 2020.
2.3 STOCKS

- The IEA and OPEC continue to report strong alignment on stock figures. The IEA reports OECD stock levels at 2878 mb, which is close to OPEC’s assessment of 2945 mb for OECD stock that is 42.4 mb below and 24.7 mb above the five-year average, respectively. The divergence between OPEC and the IEA stands at 67 mb for April. Total US crude inventories (excluding SPR) amount to about 528 mb according to the US Energy Information Administration (EIA). The EIA reports U.S. crude oil inventories are 10 percent above the five-year average for this time of year. OPEC reports US commercial crude stocks at 469 mb that are below the five-year average by about 5 mb.

2.4 SNAPSHOT (mb/d)

<table>
<thead>
<tr>
<th>Demand</th>
<th>OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>World</th>
<th>Growth</th>
<th>Δ m/m</th>
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<tbody>
<tr>
<td>IEA</td>
<td>41.91</td>
<td>-5.69</td>
<td>-3.77</td>
<td>48.63</td>
<td>-3.62</td>
<td>-5.45</td>
<td>90.55</td>
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<tr>
<td>OPEC</td>
<td>43.92</td>
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<td>-3.68</td>
<td>48.91</td>
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<td>-6.91</td>
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<td>0.28</td>
<td>0.77</td>
<td>2.23</td>
<td>2.27</td>
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<tr>
<th>Supply</th>
<th>OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>NOPEC</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>OPEC</th>
<th>Growth</th>
<th>Δ m/m</th>
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<td>IEA</td>
<td>28.13</td>
<td>-0.44</td>
<td>-2.13</td>
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<td>-1.78</td>
<td>63.23</td>
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<td>28.58</td>
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<td>OPEC</td>
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<td>63.47</td>
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<td>-3.26</td>
<td>28.61</td>
<td>0.82</td>
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<tr>
<td>Difference</td>
<td>1.85</td>
<td>0.48</td>
<td>0.90</td>
<td>0.84</td>
<td>0.10</td>
<td>0.26</td>
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<td>0.81</td>
<td>1.13</td>
<td>0.03</td>
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<table>
<thead>
<tr>
<th>Stocks (mb)</th>
<th>OECD</th>
<th>US</th>
<th>OECD to 5-Year Average</th>
<th>US to 5-Year Average</th>
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<tbody>
<tr>
<td>IEA</td>
<td>2878</td>
<td>-</td>
<td>42.4 mb below</td>
<td>-</td>
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<tr>
<td>OPEC</td>
<td>2945</td>
<td>469</td>
<td>24.7 mb above</td>
<td>5.0 mb below</td>
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<tr>
<td>EIA</td>
<td>528</td>
<td>-</td>
<td>10 percent above</td>
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Data obtained from IEA Oil Market Report, 15 April 2020; OPEC Monthly Oil Market Report, 16 April 2020, and Energy Information Administration, Weekly Petroleum Status Report, 29 April 2020
*Totals in table may not exactly reflect content due to independent rounding.
3. GLOBAL ANALYSIS

3.1 DEMAND DATA

See the graph below for the monthly revisions of IEA and OPEC annual estimates for 2019 and new estimates for 2020 demand.

*monthly estimates rounded to the nearest barrel.

IEA and OPEC overall demand decreases sharply in April

The IEA and OPEC agree on demand decrease but IEA reports greater decline

![Graph: Monthly Revisions of Annual Estimates for Oil Demand Growth 2019/18 and 2020/19 from April 2020]

- **Absolute Demand**
  - The IEA’s estimate for global demand growth decreased by 9.21 mb/d to **-9.30 mb/d** for an absolute demand of **90.55 mb/d** in 2020. Demand in 2020 will continue to depend on the extent and severity of the novel coronavirus that has significantly impacted the world economy and continues to erode global demand.
  - As the traditional driver of demand growth, non-OECD Asia demand has been revised down further to -1.81 mb/d in April from -0.02 mb/d last month.
  - OPEC’s global demand outlook also decreased by 6.91 mb/d for a total decline in growth to **-6.85 mb/d** in 2020. Absolute demand is below the 100 mb/d mark at **92.82 mb/d**.

- **OECD Demand**
  - The IEA sees OECD oil demand decline to **-5.69 mb/d**, down from last month’s figure of -0.24 mb/d with the Americas comprising most of the decrease at -2.87 mb/d. The IEA anticipates total OECD consumption for 2020 at **41.91 mb/d**.
  - OPEC’s demand projection for the OECD region decreases by 3.68 kb/d to reach a demand decline of **-3.99 mb/d** with total OECD demand for 2020 at **43.92 mb/d**.
• **Non-OECD Demand**

The IEA and OPEC anticipate demand declines in non-OECD demand for this year at **-3.62 mb/d** and **-2.85 mb/d** respectively driven largely by the Americas and the Middle East. The discrepancy is largely due to differing views on COVID-19 and the extent to which it will impact short-term demand. Total non-OECD demand forecasts average **48.63 mb/d** and **48.91 mb/d**, respectively.

- **China Demand**
  - The fall in oil demand is estimated to have accelerated to 2.8 mb/d in March as lockdown measures were extended. The impact of the virus in April and May on oil demand will be significantly reduced according to the IEA. Overall oil demand in 2020 is expected to decline 890 kb/d.
  - According to OPEC, demand fell by 3.20 mb/d year-on-year (y-o-y) in February, the largest ever monthly decline in petroleum products demand in China. Demand for products is expected to remain low due to uncertainty over re-emergence of COVID-19. Demand for 2020 is forecast to drop by around 830 mb/d y-o-y.

- **India Demand**
  - India went into lockdown on 24 March shutting down key sectors of its economy in the process. Overall demand is expected to drop by 280 kb/d in 2020 but can change depending on how COVID-19 impacts the country long-term.
  - According to OPEC, India's oil demand increased in February by 0.04 but lower than the previous three years. With lockdown now in effect, demand is set to decrease in 2020 by 410 kb/d.
3.2 SUPPLY DATA

See the graph below for the monthly revisions of IEA and OPEC annual estimates for 2019 and new estimates for 2020 supply.

*monthly estimates rounded to the nearest barrel.

**IEA and OPEC see sharp decline in supply in April**

**OPEC OECD supply remains positive in 2020**

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### Monthly Revisions of Annual Non-OPEC Liquids Supplies Estimates

2019/18, and 2020/19 from April 2020

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- **Non-OPEC Supply**
  - The IEA forecasts non-OPEC supply at **63.23 mb/d** with a supply decline of **-2.31 mb/d** for 2020, 4.39 mb/d less than last month.
    - On 12 April 2020 OPEC+ producers struck an agreement to adjust oil production by 9.7 mb/d for May and June, by 7.7 mb/d from July through December, and by 5.8 mb/d from January 2021 through April 2022.
    - Outside of the OPEC+ arrangement, the US, Canada, Brazil will also see reduced production as a result of market forces and the lack of storage capacity causing operations to scale back. Norway had indicated that it may cut production after OPEC+ deal is finalised but has yet to announce any final decision.
    - US and Canadian production is expected to decline by 370 kb/d and 360 kb/d in 2020 while Brazil will decrease by 20 kb/d.
    - The total non-OPEC supply decline of -2.31 mb/d in April stands in sharp contrast to last month’s growth of 2.08 mb/d.
  - OPEC’s April assessment of total non-OPEC supply for 2020 stands at **63.47 mb/d**. Supply growth decreases by 3.26 mb/d with a total decline of **-1.50 mb/d** and most of the decrease coming from Russia (-1.30 mb/d) due to its role in the OPEC+ agreement. Other notable decreases are driven by Kazakhstan (-0.17), US (-0.15 mb/d), Oman (-0.11), and Canada (-0.09).
OECD Supply

- The IEA forecasts OECD supply decline at \(-0.44 \text{ mb/d}\) for 2020 while OPEC reports growth at \(0.04 \text{ mb/d}\) with total supply reaching \(28.13 \text{ mb/d}\) and \(29.98 \text{ mb/d}\) respectively in 2020.

- The IEA's data also shows OECD Americas oil supply declines by \(-750 \text{ kb/d}\) to reach 23.95 mb/d in total. OPEC reports a smaller decline of \(-330 \text{ kb/d}\) with total oil supply reaching 25.41 mb/d in 2020. Growth within the region is led by Brazil at \(0.28 \text{ mb/d}\) according to OPEC and \(0.02 \text{ mb/d}\) according to the IEA.

- OPEC’s assessment for total OECD Europe production in 2020 is 4.01 mb/d with a growth of 0.31 mb/d after a decline from last year. The IEA’s assessment for OECD Europe supply records an increase by \(0.24 \text{ mb/d}\) for modestly lower total production of 3.73 mb/d led primarily by Norway.

OPEC Supply

- The IEA reports that OPEC production increased by \(680 \text{ kb/d}\) month-on-month (m-o-m) in March to reach total production of \(28.58 \text{ mb/d}\).

- OPEC reports that total OPEC-14 preliminary crude oil production averaged \(28.61 \text{ mb/d}\) in March according to secondary sources. This is an increase of \(821 \text{ kb/d}\) m-o-m. Crude oil output increased mainly in Saudi Arabia, UAE, and Kuwait while production decreased primarily in Venezuela, Libya, and Iran.

3.3 STOCK DATA

See the graphs below for monthly estimates of OECD total commercial oil stocks and the monthly comparison versus the five-year average.

*monthly estimates rounded to the nearest barrel.

- IEA data shows OECD commercial inventories fell by \(35.4 \text{ mb m-o-m}\) in February to \(2878 \text{ mb}\) and are \(42.4 \text{ mb}\) below the five-year average.

- According to OPEC, preliminary data for February showed that total OECD commercial oil stocks rose by \(5.6 \text{ mb m-o-m}\) to \(2945 \text{ mb}\) and are now 24.7 mb above the latest five-year average.

- While both organisations report closely aligned data on OECD stocks due to a continuous and reliable data stream and data harmonisation efforts, comprehensive data on stock developments for non-OECD countries is still work in progress.
IEA and OPEC data show divergence on OECD stock builds
Comprehensive non-OECD stock data remains missing

IEA and OPEC begin to diverge on stock balances over time
IEA stocks fall below the five-year average
3.3.1 GLOBAL STOCK ANALYSIS

IEA OECD and JODI non-OECD inventory data imply crude and product stocks drew by 31.7 mb in February – but there is a noteworthy large divergence in preliminary OECD estimates and a massive implied crude build in China

- IEA estimates OECD commercial inventories fell by 35.4 mb in February to 42.4 mb below the five-year average at 2,878 mb. The agency shows crude stocks rose by 11.9 mb while product stocks fell by 53 mb. OPEC estimates OECD commercial inventories rose by 5.6 mb to 2,945 mb – 24.7 mb above the latest five-year average. OPEC shows crude stocks fell by 6.1 mb while product stocks rose by 11.7 mb.

- The large 41 mb divergence in IEA and OPEC’s estimates of February stock changes is primarily driven by OECD America product assessments. While IEA estimates product inventories in OECD Americas drew by a staggering 41.5 mb, OPEC estimates a product build of 8.6 mb in the region. This unusually large discrepancy in OECD inventory estimates is particularly important at this time with storage becoming increasingly scarce and the market assessing remaining capacity.

- JODI non-OECD* data for February imply crude stocks built by 2.9 mb and product stocks drew by 11 mb. The largest crude builds occurred in Angola (+2.3 mb) and Croatia (+11 mb). Product draws occurred primarily in Brazil (-3.4 mb) and Angola (-1.2 mb).

- IEA’s OECD and JODI’s non-OECD* inventory data imply global crude and product stocks drew by 31.7 mb in February. However, JODI data did not include estimates for Chinese stock changes in February or January (China usually reports the two months together), but IEA estimates a 2.1 mb/d (126 mb) build in China over the two months. Additionally, IEA noted seaborne oil in transit was up 18 mb in February and short-term floating storage built by 1.9 mb.

* Non-OECD data is the aggregate of country-level data through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on regularity of individual country reporting.

<table>
<thead>
<tr>
<th>Global Inventory Changes</th>
<th>February</th>
<th>January</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crude</td>
<td>Products</td>
<td>Total</td>
</tr>
<tr>
<td>OECD Commercial (IEA)</td>
<td>11.9</td>
<td>-47.3</td>
<td>-35.4</td>
</tr>
<tr>
<td>OECD SPR (IEA)</td>
<td>0.6</td>
<td>1.4</td>
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<tr>
<td>Available JODI Non-OECD*</td>
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<td>-1.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Total</td>
<td>15.4</td>
<td>-47.1</td>
<td>-31.7</td>
</tr>
<tr>
<td>IEA’s Implied Global Supply Surplus</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OPEC’s Implied Global Supply Surplus</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Aggregate of all non-OECD data available through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on the regularity of individual country reporting.

Source: IEA, JODI, OPEC, Rapidan Energy Group.
Monthly Change in OECD and Non-OECD* Crude + Product Inventories

Accumulative OECD and Non-OECD* Crude + Product Builds Since End-2014

* Aggregate of all non-OECD data available through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on the regularity of individual country reporting.

Source: IEA, JODI, Rapidan Energy Group

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